

Amendments to the Claims

A detailed list of all claims under examination is shown below. Please amend claims 10, 13-15, 17, 18 and 20 and add new claim 21 as shown below:

1. (withdrawn): A barrier sheet, comprising:
 - a thermoplastic substrate; and
 - a transparent barrier film disposed on the substrate, the transparent barrier film comprising:
 - a smoothing layer disposed on the substrate; and
 - a first layer of oxygen barrier material covering the smoothing layer.
2. (withdrawn): The sheet of claim 1, wherein the smoothing layer is a first crosslinked acrylate layer.
3. (withdrawn): The sheet of claim 2, wherein the first crosslinked acrylate layer is a polymerization product of acrylate monomer having a molecular weight in the range from 150 to 600.
4. (withdrawn): The sheet of claim 2, wherein the transparent barrier film further comprises:
 - a second crosslinked acrylate layer disposed on the first layer of oxygen barrier material.
5. (withdrawn): The sheet of claim 4, wherein the transparent barrier film further comprises:
 - a second layer of oxygen barrier material disposed on the second crosslinked acrylate layer; and
 - a third crosslinked acrylate layer disposed on the second layer of oxygen barrier material.
6. (withdrawn): The sheet of claim 1, wherein the oxygen barrier material comprises a transparent oxide.

7. (withdrawn): The sheet of claim 6, wherein the oxygen barrier material comprises SiO_x .
8. (withdrawn): The sheet of claim 6, wherein the oxygen barrier material comprises aluminum oxide.
9. (withdrawn): A package, comprising the barrier sheet of claim 1.
10. (currently amended): A method of making a barrier sheet, comprising:
 - providing a thermoplastic sheet substrate; and
 - forming a transparent barrier film on the substrate, the forming step including:
 - applying an acrylate smoothing layer to the thermoplastic substrate to reduce the substrate surface roughness;
 - applying a ~~first layer of metal~~ layer of transparent oxide oxygen barrier material to the smoothing layer; and
 - applying a protective layer to the oxygen barrier material to reduce the barrier sheet oxygen permeability.
11. (original): The method of claim 10, wherein the step of applying a smoothing layer comprises applying an acrylate monomer composition to the thermoplastic substrate and crosslinking the acrylate monomer composition.
12. (original): The method of claim 11, wherein the acrylate monomer composition is applied to the thermoplastic substrate by flash evaporation.

13. (currently amended): The method of claim 11, wherein the step of applying a smoothing layer forms a first crosslinked acrylate layer on the thermoplastic substrate, the step of applying a protective layer to the oxygen barrier material forms a second crosslinked acrylate layer on the first layer of transparent oxide oxygen barrier material, and wherein the step of forming a transparent barrier film further includes:

~~forming a second crosslinked acrylate layer on the first layer of oxygen barrier material;~~

forming a second layer of oxygen barrier material on the second crosslinked acrylate layer; and

forming a third crosslinked acrylate layer on the second layer of oxygen barrier material.

14. (currently amended): The method of claim 10, wherein the step of applying a protective layer comprises:

applying an acrylate protective layer to the ~~first layer of~~ oxygen barrier material.

15. (currently amended): The method of claim 14, wherein the step of applying a protective layer comprises applying an acrylate monomer composition to the ~~thermoplastic substrate~~ oxygen barrier material and crosslinking the acrylate monomer composition.

16. (original): The method of claim 10, wherein the forming step is carried out in a vacuum chamber.

17. (currently amended): The method of claim 10, wherein the ~~first layer of~~ oxygen barrier material is applied to the smoothing layer by sputtering.

18. (currently amended): The method of claim 10, wherein the ~~first layer of~~ oxygen barrier material is applied to the smoothing layer by plasma enhanced chemical vapor deposition.

19. (original): The method of claim 10, wherein the thermoplastic substrate is a roll of sheet material.

20. (currently amended): The method of claim 10, further comprising plasma treating the ~~thermoplastic substrate~~ smoothing layer before applying the ~~smoothing layer to the thermoplastic substrate~~ transparent oxide oxygen barrier material.

21. (new): The method of claim 10, comprising applying multiple oxygen barrier layers.